

PROCEEDINGS OF THE CARDIAC SOCIETY OF GREAT BRITAIN AND IRELAND

The SEVENTH ANNUAL GENERAL MEETING of the Cardiac Society of Great Britain and Ireland was held at St. Thomas' Hospital, London, on Friday, June 11, 1943.

CHAIRMAN: SIR MAURICE CASSIDY

The Chairman took the chair at 10.15 a.m.

52 Members, 12 Temporary Members, and 2 Visitors were present.

PRIVATE BUSINESS.

1. The minutes of the last meeting having been printed in the Journal were confirmed and signed.
2. The accounts, audited by Donald Hall and Chamberlain, were presented by the Council and approved, the balance being £43 6s. 11d. The Council had decided that no subscriptions should be collected for the year 1943/4.
3. The following new Members were elected:—

Ordinary Members

Hugh Barber
A. G. Biggam
Athelstane Hill
B. A. McSwiney

Associate Members

W. Trevor Cooke
Alastair Hunter
E. V. Sharpey-Schafer
W. K. Stewart

Seven associate members were re-elected for another period of three years.

4. Leslie Cole, Cambridge, and John Parkinson, London, were elected members of the Council for the years 1943–47.
5. The Secretary was re-appointed for another year, and William Evans was again asked to act as Assistant Secretary.
6. The Secretary reported as follows.
 - (a) He had learnt with pleasure from a letter from America that Charles Laubry, whose obituary notice had been published in the Journal, was still alive and in good health.
 - (b) The Committee appointed to report on the scheme for the treatment of juvenile rheumatism had submitted their report, which would be dealt with by Bruce Perry later in the discussions; and the Council had instructed the Secretary to get in touch with the Pædiatric Association, who had drawn up a similar report, to see if it was possible for the two bodies to issue a joint report.
 - (c) The Council had asked Cassidy, Chamberlain, and Campbell to reply to a letter from the Director General of the E.M.S. about the rehabilitation of cardiac patients, and the Council hoped after some explanations and additions to publish the substance of this communication.
 - (d) The Council had instructed the Secretary to write to the Registrar of the Royal College of Physicians, to express their opinion that, if any subdivisions of physicians were made in the list of consultants, cardiologists should be included; and that if societies of specialists were consulted on this and allied questions the Cardiac Society should be included among such societies.

[The Secretary has since received a letter from the Registrar of the Royal College of Physicians reporting that this letter had come before the Standing Joint Committee of the three Royal Colleges and that it had been decided to add the Cardiac Society to the list of Societies who are willing to give advice when asked to the Standing Joint Committee of the three Royal Colleges.]

- (e) The Council had re-appointed the Editors of the *British Heart Journal* for a second period of five years; and had decided that no change should be made in the members of the Editorial Board for another year.
7. During the afternoon discussion, the Society, on the proposal of Geoffrey Bourne, instructed the Secretary to write to the Minister of Health, the Minister of Pensions, and the Minister of Labour and National Service, stating that the Cardiac Society was willing to help, if asked to do so, in a consultative capacity or by appointing members to serve on a committee, in relation to war or to post-war problems of a cardiac nature.

SHORT COMMUNICATIONS.

POTASSIUM AND THE ELECTROCARDIOGRAM

E. P. SHARPEY-SCHAFER

(Published in full; pp. 80 and 85)

OBSERVATIONS ON DIPHTHERITIC CARDITIS

H. COOKSON reported that preliminary observations on 54 cases of diphtheria suggested that death from circulatory failure was confined to the un-immunized child. Clinical, cardiographic, and pathological investigations were made on 7 children, aged 3 to 12 years, who died between the 3rd and 56th day of the illness. Death resulted from circulatory failure except in one in whom it occurred on the 56th day from the effects of neuritis. With early death (up to the 8th day) the course was progressively downwards from the onset, with widespread hæmorrhages. Clinical signs of congestive failure were absent, but triple rhythm was present and the cardiogram was abnormal. One patient showed terminal ventricular tachycardia. With death from the 9th day onwards the condition of the throat and neck cleared up, and then, after a varying interval of spurious convalescence, signs and symptoms of congestive and peripheral failure appeared. Liver congestion was invariably present. A progressive slowing of the heart rate was characteristic of this phase. Chief cardiac signs were a diffuse precordial impulse, disappearance or lateral extension of the apex beat, and triple rhythm. Only once did a systolic murmur appear. The blood pressure fell progressively for some days before death. Cardiography showed axis deviation, depression of the S-T segment, and conduction disturbance. The S-T depression might be found within 48 hours of the onset; it had some diagnostic value for it had not been found in controls with other acute infections. In the 2 cases with the longest course the cardiogram showed low voltage and T changes, the type of curve found in the adult.

Post-mortem, there was increased heart weight and thickening of the wall especially of the left ventricle. There were intracardiac ante-mortem thrombi in 2 cases. Histologically the striking change was muscle degeneration to the stage of necrosis in some areas. Inflammatory and reparative processes were slight. Bilateral pleural effusions were present in 2 cases. The liver showed degeneration in the 2 cases with the shortest course, and venous congestion, usually intense, in the others. A normal heart muscle was found in the case that died on the 56th day, as a result of diaphragmatic and other palsies, after recovering from severe congestive failure. This last finding supports the general, but not universal, view that when recovery from diphtheria does occur, however severe the attack may have been, no permanent cardiac lesion remains.

AN UNUSUAL CASE OF PAROXYSMAL TACHYCARDIA

C. G. PARSONS

(Published in full; p. 187)

COMPLETE AND PARTIAL HEART BLOCK

MAURICE CAMPBELL

(To be published in full)

INCOMPLETE BUNDLE BRANCH BLOCK

C. W. C. BAIN

(To be published in full)

ACUTE LEFT AURICULAR FAILURE

CRIGHTON BRAMWELL and MORGAN JONES described two cases of mitral stenosis, with unexpected death from acute pulmonary oedema in mid-pregnancy. In both cases a severe button-hole mitral stenosis was found at autopsy but only a presystolic murmur was present during life. The maintenance of ventricular filling in mitral stenosis was discussed and it was shown that, as chronic left auricular failure develops, ventricular filling is maintained by a gradual increase of left auricular diastolic pressure, which leads to chronic pulmonary congestion. It was suggested that when severe mitral stenosis is combined with a greatly hypertrophied left auricle, as in the two cases described, ventricular filling depends largely on auricular systole. In these circumstances, if the left auricle failed suddenly, a rapid rise of auricular diastolic pressure would occur and lead to acute pulmonary oedema.

PSEUDO-ANGINA AND PARA-ÆSOPHAGEAL HERNIA

S. W. PATTERSON described pseudo-anginal symptoms in association with para-æsophageal hernia. In cases of strangulation of the herniated viscera an acute upper abdominal crisis may simulate an attack of coronary thrombosis. Less severe symptoms of cramp-like pain in the lower chest behind the sternum, and radiating through to the back, up to the throat, and sometimes to the left shoulder, may simulate angina pectoris. These symptoms tend to follow conditions bringing about increased intra-abdominal pressure, especially posture, rather than effort and emotion. In some cases, thought to be neurosis, cardiac symptoms may arise from para-æsophageal hernia.

The mechanism of these symptoms may be (a) vascular, strangulation, obstruction, ulceration, hæmorrhage; (b) from pressure on lungs and heart; (c) from stimulation of the vagus terminations; or (d) from stimulation by stretching of the muscle-sensory fibres of the phrenic, which Mathison (Mathison, G. C. M., *Rev. Neurol. Psych.*, 1912, 10, 553) showed experimentally in dogs, cats, and rabbits caused a rise of blood pressure and increased depth of respiration.

THE ELECTROCARDIOGRAM IN MYOTONIA ATROPHICA

WILLIAM EVANS said he had examined the electrocardiogram in 9 cases and had found some characteristic change in all of them. The commonest was a prolongation of the P-R interval (with phases of 2:1 heart block in one case) slurring of the QRS complex, and electrical variation. Among the commonest clinical signs were a small pulse, a low blood pressure, and slurring or splitting of first heart sound, or triple rhythm depending on the degree of delayed A-V conduction. On cardioscopy the heart was small in 4 cases and enlarged in 3 where the P-R interval was much prolonged.

TREVOR COOKE said that over the past six years he had made essentially similar observations in 9 cases. Thus the blood pressure tended to be low, being 100 systolic or lower in 5 cases and in none was it higher than 120. There was a tendency to bradycardia, the usual pulse rate being between 65 and 75 whilst two cases had pulse rates below 55. The heart (in 7 cases examined radiologically) was small in all. An electrocardiogram was recorded in 8, and only 2 (aged 17 and 22 years) had entirely normal tracings. One man, aged 39, with marked wasting and moderate myotonia showed almost flat tracings. Subsequent treatment showed a slight increase in voltage comparable with his general clinical improvement. At that stage, intramuscular prostigmin and adrenalin and intravenous quinine had no effect upon the cardiogram. Two further cases consistently showed curves suggesting recent coronary occlusions and the other three showed abnormal QRS complexes, low voltage, and low T waves.

DISCUSSION ON THE SIGNIFICANCE OF SYSTOLIC MURMURS (*Morning Session*)

NOBLE CHAMBERLAIN deprecated the use of the word "functional" to indicate murmurs that were associated with non-valvular organic changes in the cardio-vascular system. He felt that the terms "significant" and "insignificant" might be helpful. *Significant* murmurs could include those systolic murmurs that arise from valvular heart disease or from regurgitation through an enlarged valve ring or from pathological dilatation of the vessel or chamber into which the blood is travelling. *Insignificant* murmurs would include those commonly described as physiological or cardio-pulmonary and those occurring as a temporary phenomenon in anæmias and fevers. In deciding whether or not a systolic murmur was significant, he felt that the pendulum had swung too far and that there was a tendency to regard all systolic murmurs as harmless.

In the case of basal systolic murmurs, he thought that the diagnosis of aortic stenosis might be possible in the presence of a harsh systolic murmur especially associated with radiological evidence

of left ventricular enlargement but without a thrill or the characteristic anacrotic pulse. Further, murmurs which become increasingly rough are more likely to be associated with organic changes.

In the case of the mitral systolic murmur, undoubtedly the most difficult, he suggested that roughness, wide conduction, and persistence and length were characteristics more often associated with organic defects than had lately been admitted. These murmurs are usually present both in the erect and recumbent postures though more in the latter, and they are not materially modified by respiration. Whilst murmurs having these characteristics did not necessarily indicate the presence of organic disease, they could not be regarded lightly, especially in children and in the presence of a rheumatic history. It was therefore very important to consider them in relationship to the radiological and electrocardiographic changes. It was common in children to find such significant murmurs becoming associated in a few years' time with other and clearer evidence of organic heart disease. On the other hand, it was freely admitted that in adults these significant characters might never be associated with other signs, though they were more likely to be found with diastolic murmurs or with cardiac enlargement than murmurs presenting insignificant qualities, namely, quietness and inconstancy or modification by posture and respiration.

Chamberlain referred to the common occurrence of a mid-sternal systolic murmur especially at such routine examination as is employed for recruits. He thought that if such a murmur was harsh, care should be taken to exclude the presence of a thrill, a radiologically globular heart, or right ventricular preponderance in the cardiogram, and that if any of these signs were present, the diagnosis of patent interventricular septum was justifiable. If the murmur occurred alone, even though rough, he felt it could be disregarded.

WILLIAM EVANS spoke of two varieties of mitral systolic murmurs, the one in late systole, and the murmur of mitral incompetence. The former was not uncommon; it was loud and long, and was usually best heard with the subject in the upright posture. It was not difficult to recognize because it was separated from the first heart sound by a distinct interval; indeed, the murmur was nearer to the second heart sound than to the first. The murmur assumed importance on account of the frequency with which it was regarded as evidence of mitral disease. When 40 such cases were examined clinically and by cardioscopy the heart was shown to be healthy, so that the innocent nature of the murmur had been established.

Unlike aortic incompetence, *mitral incompetence* presented no constant pattern on clinical, radiological, or pathological examinations; indeed, a systolic murmur appeared to be the only sign allotted to it, but this murmur was also frequently present in mitral stenosis, aortic incompetence, aortic stenosis, and hypertension. Two criteria might be set up to test the presence of mitral incompetence in these conditions, namely, disease and/or dilatation of the mitral valve, and enlargement of the left auricle. These were sought radiologically and at necropsy in cases where a mitral systolic murmur was associated with one of these four conditions. They were absent except in mitral stenosis. Even in mitral stenosis Evans thought that the lesser effect of mitral incompetence, admittedly present, did not merit specific mention in diagnosis, for the term mitral stenosis was a comprehensive one standing for mitral disease caused by rheumatism, showing systolic and diastolic murmurs and characteristic changes in the contour of the heart as seen radiologically, commonly giving rise to auricular fibrillation which at the start responded favourably to digitalis, and often complicated by intra-cardiac thrombosis and embolism. Further, since the presumptive diagnosis of mitral incompetence hindered precise diagnosis of heart disease, Evans asked for the disuse of the term.

THE PLACE OF CARDIOLOGY IN A CO-ORDINATED MEDICAL SERVICE (*Afternoon Session*)

F. R. FRASER spoke of the hospital services.

If it is assumed that the post-war hospital scheme will be based on the division of the country into areas, each capable of providing all the normal hospital and consultant services, there will be a "key" hospital in each area and the specialists and special units for the area will normally be situated at the "key" hospital. A number of such areas will come within the sphere of influence of a medical school and its teaching hospital; and within each area there will be subsidiary hospitals and perhaps health centres that look to the "key" hospital for support and inspiration. There should be in each area a physician specially trained and experienced in the diagnosis and treatment of cardiac and circulatory disorders. He should be on the staff of the "key" hospital, and be available for consultations at the subsidiary hospitals of the area. In association with the "key" hospital, there should also be a special hospital or unit in suitable surroundings for the treatment and rehabilitation of selected children and young adults with cardiac damage resulting from rheumatism.

BRUCE PERRY spoke of the care of the rheumatic child, some of his points being the same as those made in the preliminary reports on these subjects of the committees set up by the Cardiac Society and by the Pædiatric Association.

Acute rheumatism produces such serious effects in children that it is important all cases should be brought under skilled treatment as soon as possible. Compulsory notification seems the only method of ensuring this, and should include all cases of acute rheumatism, chorea, rheumatic heart disease, and heart murmurs of doubtful significance in children. The latter need to be included (though possibly they should be referable to the clinic rather than notifiable) to differentiate the murmurs due to rheumatic heart disease from those of less significance.

The need for hospital treatment for a long period calls for special hospitals equipped with school teachers and school apparatus. Such hospitals should be of the open-air type in the country, and could sometimes be combined with those for the treatment of children with tuberculosis. It is probably desirable that the children should, in the first place, be admitted to the main children's hospital or the children's department of the main general hospital, and should be transferred from there to the special hospital to complete their treatment. The suggested cardio-rheumatic clinic should be held in the main hospital of the region, and in addition to full medical facilities including those for radiography and electrocardiography would need an almoner's department and adequate secretarial assistance to see that the necessary help was given and that home conditions were as satisfactory as possible, and that arrangements could be made for getting children up at regular intervals as needed. It would seem disadvantageous to make a break between this clinic and the clinic continuing to help these patients when they have reached adult life and needed advice as regards occupation, pregnancy, etc., and therefore a closely related clinic for adults, perhaps in the evening, would be desirable.

MAURICE CAMPBELL spoke of the place of cardiology in relationship to general medicine, and of the cardiologist to the general physician.

The advantages of the physician specially trained in heart disease are so obvious, both from the technical knowledge of X-rays and electrocardiograms and from the clinical knowledge of heart problems, that anything to be said on the other side is sometimes forgotten. Even from the point of view of the patient himself, the suspected diagnosis of heart disease may be wrong, and the problem may be a general medical one, as there are so many general diseases overlapping with cardiac problems; it is, therefore, essential that the cardiologist should be a good general physician. Apart from the necessity for an interest in psychology, one need only mention anæmia, hyperthyroidism, diabetes, renal disease, and certain diseases of the chest presenting themselves as dyspnoea or pain, to realize the need for wide general medical knowledge. Secondly, both from the point of view of teaching and general organization of a medical service, a man who is also a general physician is more useful. The ordinary-sized hospital is not large enough to justify the appointment of a cardiologist, and only when a medical centre is large enough to need ten or twelve physicians can one devote himself almost whole-time to cardiology.

It would probably be agreed that neurology and dermatology should be the first medical specialities to be separated off, but many would think that cardiology and diseases of the chest would be the next most important to separate. Sometimes in the smaller centres these two can be combined. The separation of pædiatrics as a medical speciality, except in so far as it applies to the care of children up to 12 or 18 months, would appear to be a mistake, as medicine makes no dividing line for age, and the disease—whether of the nervous system or of the heart or of the lungs—often starts in childhood and continues into adult life.

As regards the training of the cardiologist, no one should take up this work until he had done two to five years' general medical work of registrar status after ordinary house appointments and (if it is so decided in the future) passing the examinations and holding the appointments necessary for consultant status, and after this, two to five years' training in the special problems of cardiology.

He concluded (1) that all larger centres should have a cardiac department with a physician in charge and a second physician or registrar and the necessary technical help, and (2) that no one should be recognized as a cardiologist who has not already become a recognized general consulting physician.

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Luncheon was served at St. Thomas' Hospital, by the kindness of the Governors of the Hospital. As it was not possible to arrange a formal dinner, the members met at 1 Devonshire Place, W.1, by the invitation of the Chairman and John Parkinson.